December 19, 2007

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
RISK BASED INSPECTION STRATEGY

Historically, DEQ has used a traditional or neutral approach to inspection planning based primarily on facility size and classification as outlined in various EPA media guidance, MOA's and grant documents. Over time, this has resulted in some instances where large, well managed facilities with excellent compliance records are inspected annually at the expense of significant staff resources. At the same time, the number of regulated facilities continues to grow, environmental interest in areas such as mercury and nutrients in the Chesapeake Bay is increasing and state resources remain constant or are decreasing. With this in mind, DEQ has developed a Risk Based Strategy (RBS) for inspection planning. The RBS is envisioned to allow implementation of inspection schedules using a risk based approach that will compliment limited resources to accomplish the environmental protection goals for the Commonwealth.

In order to focus the DEQ's regional resources most effectively to achieve our goal of protecting human health and the environment, it is necessary to develop a method of prioritizing facilities based on potential risk to human health and the environment. Compliance history and location to environmentally sensitive areas are critical components of the RBS. The strategy also includes consideration of facility participation in environmental enhancement programs, special areas of agency interest and multi-media inspection approaches. In addition to reduced inspection frequencies, the strategy also utilizes the concept of focused inspections. For example, conducting an inspection focusing on a few key areas in lieu of a full technical inspection may be warranted for certain facilities. The RBS will allow flexibility for regional staff to provide attention where it is most needed.

An important aspect to the RBS includes documentation which will allow consistent development of media inspection plans, specific rationale used to adjust traditional inspection frequencies or conduct focused inspections. It is also important to evaluate the results of the RBS each year. This evaluation will look at traditional measures like issues identified, corrective actions taken, enforcement activity, and improvements in monitored data etc. Other aspects such as increased field presence at previously seldom inspected facility categories, results of any agency initiatives and multi-media approaches will also be evaluated

The RBS described above is presented as a general agency wide summary including air, waste, and water media. Specific details and procedures are included within each of the media-specific strategies attached to this document.

AIR COMPLIANCE
RISK BASED STRATEGY

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR COMPLIANCE
RISK BASED INSPECTION STRATEGY

I. Introduction

The Department of Environmental Quality (DEQ) Air Compliance Division is mandated to schedule a significant subset of the fiscal year inspections in accordance with an August 2005 Memorandum of Understanding (MOU) between the Commonwealth of Virginia Division of Air Program Coordination and the U.S. EPA Region 3 Air Protection Division. The August 2005 MOU requires the Commonwealth of Virginia to operate its compliance and inspection program consistent with the national policy known as the "Clean Air Act Stationary Source Compliance Monitoring Strategy (CMS)" (Appendix B) dated April 25, 2001. The current CMS places emphasis on Title V Major Sources and a limited subset of Synthetic Minor Sources. The CMS establishes minimum frequencies for determining the compliance status of facilities covered by the CMS, but allows for alternative measures to be developed and negotiated with EPA Region 3 to enable DEQ to address local compliance issues. To insure that facilities are operated and maintained properly, and that the self-monitoring information is representative and accurate, the DEQ conducts facility site inspections as the principal determinate of regulatory compliance. The DEQ utilizes two of the three monitoring categories identified in the CMS to determine the compliance status of sources: (1) Full Compliance Evaluation (FCE), and (2) Partial Compliance Evaluation (PCE).

With the growing public concern regarding the operation of many facilities that may not fall under the radar of the current CMS and/or the lack of agency resources to address these facilities, the DEQ has identified a need to develop and utilize a Risk Based Strategy (RBS). The RBS will provide the flexibility needed to identify and target facilities in need of increased or decreased inspection frequency to use staff resources most effectively. The purpose of this document is to set forth a RBS policy for inspection planning in the DEQ Air Compliance Program. This policy embodies the DEQ Strategic Plan by targeting sources with the greatest potential risk for impacts to the environment and human health.

II. Strategic Goals

The goals of this strategy are, but not limited to, the following:

- To provide an alternative strategy for compliance personnel to follow in generating an inspection plan that assures optimum application of resources to the most vulnerable identified sources or areas of concern;
- To assure that obligations under the State Air Control Board Law and national CMS commitments are met or justified otherwise;
- To provide flexibility to the regions for the identification and inspection of sources in need of additional compliance monitoring, taking into account the current CMS relative to regional resources;

- To illustrate improvement in source air compliance by effectively utilizing limited regional resources.

III. Inspection Objectives

The objectives of the inspection program are, but not limited to, the following:

- Assuring that facilities are in compliance with permit conditions, regulations, and requirements, thereby protecting air quality;
- Improving facility performance by providing appropriate compliance assistance;
- Supporting permit development to promote practical enforceability;
- Maintaining an appropriate regulatory presence to be a deterrence for noncompliance;
- Supporting administrative, civil, and criminal enforcement actions;
- Identifying areas of non-compliance and taking appropriate action(s) to inform, correct, and promote compliance.

Each air compliance inspection may not accomplish every objective, but most inspections are useful in accomplishing several rather than only one. Therefore, scheduling and implementing an inspection plan that addresses the more critical areas will be most effective, taking into account available DEQ resources.

IV. Inspection Scheduling

Currently Title V Major and Synthetic Minor 80% facilities are targeted on a federal fiscal year basis (October through September) conforming to the requirements set forth in the April 2001 CMS policy. The RBS protocol would be used on the CMS inspection plan to determine which facilities qualify to be added and/or dropped in the development of a RBS inspection plan. The RBS evaluation will focus on the criteria identified in Section V of this document. Sources above the line that meet the requirements in Section V can be deferred to another time to compensate for sources identified below the line that constitute a higher potential risk to the environment, based upon the criteria in Section V. Those higher risk sources that were not targeted for site inspection can now be placed above the line to better utilize resources and address areas of greater federal, state, and regional concern. The two plans, CMS and RBS, should remain separate and be labeled accordingly initially. Justification for not inspecting CMS planned facilities will have to be documented and placed in the source file. Use **Attachment A** to document the decision to forgo or add an inspection site visit at a facility. The same instructions must be followed for those sources below the line (not included in the CMS inspection plan) but that have been targeted for FCE based on the RBS policy. Documentation is an essential part of the RBS inspection plan by providing an easy to follow paper trail for anyone reviewing the file.

Each region will be required to submit both the CMS inspection schedule and the RBS inspection schedule to the Office of Air Compliance Coordination by October 19th each year. The RBS inspection schedule should include:

- Registration number;
- Facility name;
- Facility type and CMS classification;
- Whether the facility was added to or dropped from the FFY CMS inspection schedule;
- The primary trigger using the RBS for adding or dropping the facility from the FFY CMS inspection schedule.

Risk Based Strategy on Site Inspection Summary for FY20XX (format example)

Registration #	Facility Name	Unit Type	Status	Number of RB Inspections Added or Reduced	RB Factor Basis
XXRO	County ABC Landfill	Sanitary Landfill [SW]	Active	1	Added - CH, AE
XXRO	GES AutoSalvage	Stormwater General Permit	Active	1	Added - MM
XXRO	Solid Waste TS	Transfer Station [SW]	Active	-1	Forgo - CH, EE
XXRO	Waste Rus Material Recovery	Materials Recovery Facility [SW]	Active	-1	Forgo - CH, ES
XXRO	Boo Yard Waste Composting Facility	Yard Waste Composting Facility [SW]	Active	-1	Forgo - CH, ES
XXRO	Hospital	RMW Steam Sterlizer [SW]	Active	-1	Forgo - CH, ES
XXRO	Little MRF	Materials Recovery Facility [SW]	Active	1	Added - CH, ES

V. Risk Based Protocol

The risk factors are divided into two categories; a primary category for those factors that are facility specific and a secondary category which are programmatic or Agency specific factors. For instance, a facility with an excellent compliance history may be deemed suitable for a reduced inspection frequency; however, the facility is of a type/class or at a location for which the Agency has an initiative in place for further evaluation. Therefore, due to the secondary factor, a reduced inspection schedule may not be suitable. The primary risk based factors are:

Environmental Enhancement Program Participation **(EE)** - Facilities that have achieved E3 or E4 status are eligible for reduced frequency or focused inspections. Other facilities participating in DEQ VEEP program or EPA performance track may also be candidates for reduced inspection frequency or focused inspections.

Compliance History and Facility Type **(CH) -** The compliance history is the major consideration for risk based inspection scheduling. This factor in consideration with facility type should be used to determine whether fewer or more focused (on-site) inspections are necessary at a facility with a good compliance history or whether increased inspections are necessary for facilities with on-going issues. Compliance history shall be considered with type of unit(s) at a facility to ensure the value added for conducting the inspection is equivalent to the resources expended. For "minor" storage or treatment units with good compliance histories (minor such as small scale regulated medical waste treatment units/autoclaves, transfer stations, materials recovery facilities, and vegetative waste composting facilities) lesser inspection frequency based on less risk posed may be appropriate.

Environmental Sensitivity **(ES)** - If the facility is located in areas of particular environmental or public health concern, increased inspection frequency may be necessary.

Multi-media Applicability **(MM) –** Evaluate risk based plans to include potential multi-media opportunities ranging from single inspectors covering simple multiple program areas to a team approach for larger more complex facilities. For instance, a permitted landfill may be a potential impact to an impaired watershed in which case a surface water issue may need to be brought to a water compliance inspector's attention.

Other options would include solid waste compliance inspectors attending an inspection with inspectors from another media to a smaller or minor type facility (cross-training), or going to a larger facility with multi-media programs as part of an inspection team.

Secondary risk based factors may or may not be applicable depending on Agency plans and goals. These factors should be evaluated when proposing the risk based inspection plan/schedule. The secondary risk based factors are:

Agency Exposure/Sectors (**AES) –** Evaluate agency obligations relative to legislative mandates and sector initiatives (i.e., identification of particular groups or categories) relative to risk. If we lack the resources to complete everything then what we do not accomplish should be based on an evaluation of risk to the agency. These risks may include consideration of concerns by staff or public regarding a particular facility, or identification of particular sectors for any number of considerations including any newly regulated/permitted facilities, particular pollutant concerns, minimal agency resources applied historically, etc.

Specific metrics for the above categories are provided below for regional office use. These metrics can help identify which facilities may require more or less compliance attention. However, the best measure for that determination is the compliance history and inspector's knowledge of the facility.

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
Env. Enhancement Participant				
	EE Participation	EE Ranking	E3 or E4	NA
Compliance History and Facility Type				
	Inspection Related Compliance	Inspection Reports, Complaint investigations	Satisfactory reports; Good operations and maintenance (i.e., Less than 2 deficiency or warning letters within last two years; No NOVs within last 3 years.)	Unresponsive or chronic non-compliance or O&M issues.
	Monitoring Data	Title Reporting, NSPS EER's, NESHAP Semi-annual & Annual	Below permit limits, Reports indicate in compliance	Alleged violations of regulatory or permit limits; Deficiencies in

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
		Reports, etc.		data QA/QC
	Industry Sector		Lower potential to emit criteria or HAP emissions	Greater potential to emit criteria or HAP emissions
	Inspection Frequency: Time lapse from most recent inspection	CEDS database	Inspection conducted within most recent 24 month period.	No inspection conducted at the facility within the most recent three to five year period.
Environmental Sensitivity				
	Proximity to environmentally sensitive areas	Non-attainment and attainment maintenance areas		Located within these areas
	Source Classification	Type	Minors and Synthetic Minors	Majors and Synthetic Minor 80% Sources
	Environmental Justice	Physical Location to low socioeconomic areas		Facility within or adjacent to EJ areas
	Population	Population Density	Rural areas	Urban areas
Agency Exposure/Sectors				
	Community Concerns	Complaints	No complaints or only minor or unfounded complaints received	Multiple substantiated complaints from different sources regarding facility
	Funding Sources	Mandated priorities	Non-EPA or State mandated priority	EPA or State mandated priority

Permittees participating in DEQ Environmental Excellence Program that have attained E3 or E4 status are eligible for reduced inspection frequency. E3 and E4 facilities are identified in CEDS. Inspectors should participate in identifying facilities with good operations, monitoring, and maintenance that are candidates for reduced/focused inspection activity.

As an example, the following could be used to identify a particular facility for a decreased inspection activity:

- Facility has an excellent compliance history based on the last three years of inspection reports (CH);
- Facility data indicates no emissions exceedances (ES);
- Facility has a emergency generator with a updated permit (CH)

Based on the above, the facility was determined to qualify for as a lesser risk facility. Therefore, for the inspections that are reduced in scope (focused inspection) or are not done, the risk based factor evaluation for lower inspection frequency will be CH, and ES.

Another advantage of the risk based protocol is that it provides DEQ an opportunity to focus multi-media inspection resources on specific areas of concern for the Agency, such as impaired watersheds. The risk based protocol can be used to determine if a permitted SWMF is contributing to the impairment. This will require that coordination take place between different program areas and media to insure coverage of all permitted facilities in the watershed. For these types of added inspections, a brief narrative in the inspection schedules should be added describing the purpose of the watershed initiative. A year end report detailing the inspection findings may be necessary to evaluate findings and determine future activities and should be coordinated with other media programs, as necessary.

VI. Inspection Types

Refer to Air Standard Operating Procedure 2 "Inspections" section C of the September 14, 2001 revision, implemented September 18, 2001 or the April 25, 2001 National CMS policy.

VII. Inspection Frequency

The 2005 MOU and 2001 CMS policy establish minimum inspection frequencies under the air compliance program. The current minimum inspection frequency goals for the DEQ to perform FCEs are presented in Table 1. Inspection planning and implementation in accordance with the RBS will be done on an as needed basis under the guidelines of the RBS and accompanied with appropriate documentation.

VIII. Alternatives To The Recommended Inspection Frequency

The 2001 CMS policy allows States/Locals to develop alternatives to the recommended inspection frequency with EPA Region 3 approval. In those instances where the States/Locals propose alternatives to the recommended frequencies, States/Locals should provide a more detailed plan. States/Locals should include a rationale describing the following:

- Why it is not necessary to evaluate specific facilities or source categories subject to the minimum frequencies;
- Why it is appropriate to substitute other facilities.

Therefore, the proper documentation as described in Section IV will have great importance to demonstrate compliance with the CMS.

IX. Inspection Reporting

Ninety percent of all inspection reports are to be generated and submitted to the air compliance manager within 25 days of the inspection or report submittal. All inspection reports are to be submitted to EPA Region 3 through AFS within 60 days of the inspection or report submittal to comply with the 2005 MOU.

Table 1

Full Compliance Evaluation	*Biennially	5 Years
Title V Major Sources	X	
Synthetic Minor 80% Sources		X
Synthetic Minor Sources		
True Minor Sources		

*Biennially defined as once every other fiscal year.

IX. Multimedia Inspections

Air inspectors will at a minimum be able to detect and identify potential regulatory infractions for other media during an onsite inspection. Potential infractions detected for other regulatory programs should be referred to the respective program managers within 8 hours of detection or by the next business day. Inspector training to identify potential multimedia infractions will involve, but not be limited to, internal cross training seminars, internal cross training inspections, multimedia inspection observations. Once a potential infraction is reported, the program manager will instruct the assigned inspector to investigate the matter.

Attachment A

Department of Environmental Quality
Air Compliance

Documentation of 'FFY Scheduled' Inspection Change

Facility Name: _____
Permit Number: _____
Facility Classification: □ Major □ Synthetic Minor 80% □ Synthetic Minor □ Minor

Date of proposed change: _____
Date of last 'FCE' Inspection: _____
Date of last Inspection: _____

Air Compliance Manager Name & Date: _____
Regional Office: _____

Reason for Change (check all that apply):

- □ Compliance History **CH**
- □ Environmental Excellence **EE**
- □ Environmental Sensitivity **ES**
- □ Multi-media **MM**
- □ Agency Exposure/Sectors **AES**

Provide specific details for above checked items: _____

Proposed Actions:

- □ Postponed 'FCE-onsite' Inspection
- □ Added 'RBS' targeted source to the inspection schedule

Other Comments:

SOLID WASTE COMPLIANCE
RISK BASED STRATEGY

SOLID WASTE COMPLIANCE
RISK BASED INSPECTION STRATEGY

1. Introduction

The Department of Environmental Quality's (DEQ's) Solid Waste Compliance Program encompasses permitting, monitoring, inspection, and enforcement to assure solid waste is properly managed in accordance with applicable regulations. Inspections are the primary mechanism for ensuring compliance verification. Inspections may be initiated as part of regular compliance oversight of permitted waste management facilities, for administrative or verification purposes such as pre-operational inspections and closure verification inspection, or "for cause" where probable non-compliance has been observed or brought to the attention of DEQ through reporting, complaints, or other mechanism.

2. Purpose

The purpose of this plan is to set forth a risk based approach for DEQ's solid waste inspection program. This strategy identifies inspection authorities, objectives, types, frequencies, scheduling, and reporting.

3. Strategy Goals

The major goal of this strategy is to help focus agency efforts based on areas that are of the highest risk to human health or the environment. This strategy will assist the regional offices in implementation of a risk based compliance inspection plan and will:

- provide a framework for compliance and assure optimum coverage and thoroughness during inspection activities of the regulated community;
- assure that obligations under the solid waste regulations are met;
- provide guidance and assistance for commitments, budgeting, and resource requirements;
- ensure inspections are conducted in a consistent manner;
- provide for cross media training; and
- provide a framework for a risk based inspection protocol.

4. Inspection Authority

DEQ is authorized to conduct inspections of permitted solid waste management facilities and other waste management sites for purposes of determining compliance with the requirements of the statute, regulations, and permits. The DEQ's authority to conduct inspections is provided for in the VSWMR, 9VAC20-80-550. Per this section, each facility permitted to accept solid waste requires periodic inspection and review of records and reports. The permittee by accepting the permit or permit-by-rule agrees to these periodic inspections.

5. Inspection Types

Solid waste inspections are necessary to insure compliance with the regulatory requirements by permittees and others. To that end, various types of inspections are regularly conducted. These types are:

- *Regular Compliance Inspections* are routine inspections of permitted and permit-by-rule solid waste treatment, storage, and disposal facilities. The purpose is to evaluate and determine facility compliance with requirements of applicable laws, regulations, and permit or permit-by-rule documents.

- *Special Purpose Inspections* are non-routine inspections of permitted and permit-by-rule solid waste treatment, storage, and disposal facilities. The purpose is to evaluate and determine facility compliance with specific requirements or milestone of applicable laws, regulations, and permit or permit-by-rule documents, or determine facility compliance with specific provisions of an Enforcement Order (or equivalent).

- *Complaint Investigations* are inspections of facilities or sites that are triggered by a compliant regarding actual or potential mismanagement of solid waste. The purpose is to evaluate and determine compliance with applicable laws, regulations, and/or permit or permit-by-rule documents.

The risk based strategy is to be applied to the regular compliance inspections. Other inspections will need to be conducted at the frequencies dictated by their particular drivers, such as enforcement order provisions, complaints received, etc.

6. Risk Based Protocol

This initiative is a process designed to direct staff resources towards facilities with higher risk factors and/or poor performance records. Resources to conduct these higher risk inspections will be made available by conducting focused inspections and/or decreasing inspection frequency at facilities that historically demonstrate excellent compliance and pose less risk of impact to human health or the environment. The following is a generalized discussion of risk factors that could be applied to compliance program inspection strategies in order to accomplish environmental protection goals or to insure resources are used in the most environmentally effective manner as possible.

The risk factors are divided into two categories; a primary category for those factors that are facility specific and a secondary category which are programmatic or Agency specific factors. For instance, a facility with an excellent compliance history may be deemed suitable for a reduced inspection frequency; however, the facility is of a type/class or at a location for which the Agency has an initiative in place for further evaluation. Therefore, due to the secondary factor, a reduced inspection schedule may not be suitable. The primary risk based factors are:

Environmental Enhancement Program Participation **(EE)** - Facilities that have achieved E3 or E4 status are eligible for reduced frequency or focused inspections. Other facilities participating in DEQ VEEP program or EPA performance track may also be candidates for reduced inspection frequency or focused inspections.

Compliance History and Facility Type **(CH) -** The compliance history is a major consideration for risk based inspection scheduling. This factor in consideration with facility type should be used to determine whether fewer or more focused inspections are necessary at a facility with a good compliance history or whether increased inspections are necessary for facilities with on-going issues. Compliance history shall be considered with type of unit(s) at a facility to ensure the value added for conducting the inspection is equivalent to the resources expended. For "minor" storage or treatment units with good compliance histories (minor such as small scale regulated medical waste treatment units/autoclaves, transfer stations, materials recovery facilities, and vegetative waste composting facilities) lesser inspection frequency based on less risk posed may be appropriate.

Environmental Sensitivity **(ES)** - If the facility is located in areas of particular environmental or public health concern, increased inspection frequency may be necessary.

Multi-media Applicability **(MM) –** Evaluate risk based plans to include potential multi-media opportunities ranging from single inspectors covering simple multiple program areas to a team approach for larger more complex facilities. For instance, a permitted landfill may be a potential impact to an impaired watershed in which case a surface water issue may need to be brought to a water compliance inspector's attention. Other options would include solid waste compliance inspectors attending an inspection with inspectors from another media to a smaller or minor type facility (cross-training), or going to a larger facility with multi-media programs as part of an inspection team.

Secondary risk based factors may or may not be applicable depending on Agency plans and goals. These factors should be evaluated when proposing the risk based inspection plan/schedule. The secondary risk based factors are:

Agency Exposure/Sectors **(AES) –** Evaluate agency obligations relative to legislative mandates and sector initiatives (i.e., identification of particular groups or categories) relative to risk. If we lack the resources to complete everything then what we do not accomplish should be based on an evaluation of risk to the agency. These risks may include consideration of concerns by staff or public regarding a particular facility, or identification of particular sectors for any number of considerations including any newly regulated/permitted facilities, particular pollutant concerns, minimal agency resources applied historically, etc.

Specific metrics for the above categories are provided below for regional office use. These metrics can help identify which facilities may require more or less compliance attention. However, the best measure for that determination is the compliance history and inspector's knowledge of the facility.

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
Env. Enhancement Participant (EE)				
	EE Participation	EE Ranking	E3 or E4	NA
Compliance History and Facility Type (CH)				
	Inspection Related Compliance	Inspection Reports	Satisfactory reports; Good operations and maintenance (i.e., Less than 3 deficiency or warning letters within last two years; No NOVs within last 2 years.)	Unresponsive or chronic non-compliance or O&M issues. Outstanding NOVs/enforcement issues. Problems with operations and maintenance (i.e., 3 or more deficiency or warning letters within last two years; 1 or more NOVs within last 2 years.)
	Monitoring Data	Gas Data and Groundwater Data	Below established permit or regulatory limits	Alleged violations of regulatory or permit limits; Deficiencies in data QA/QC
	Type	Unit Type	Unit type poses less risk to human health and/or the environment, such as storage or treatment units (MRFs, transfer stations), or smaller capacity units, such as small units for regulated medical waste sterilization treatment.	Disposal units
Environmental Sensitivity (ES)				
	Surrounding Land Use	Public Use - residential, recreational; Ecological	Public water supply; non-residential	Drinking water wells in proximity; residents,

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
		Sensitive Areas; Potable Water Supply	surrounding area	parks, daycares, hospitals, etc. in proximity; endangered species located nearby
	Proximity to environmentally sensitive areas	Proximity to impaired water body		Discharges or potential to discharge to and impaired water body
		Non-attainment and attainment maintenance areas		
	Source Classification	Permit Type	PBR Permit	Full Permit
		Intake Volumes	<1000 tons/day	>1000 tons/day
	Environmental Justice		Not within or adjacent to EJ areas	Facility within or adjacent to EJ areas
	Population	Population Density	Rural areas	Suburban/Urban areas
Agency Exposure/Sectors (AES)				
	Community Concerns	Complaints	No complaints or only minor or unfounded complaints received	Multiple substantiated complaints from different sources regarding facility.
	Funding Sources	Mandated priorities	Non-EPA or State mandated priority	EPA or State mandated priority

Regions have two options for high performing facilities; to either perform a lower intensity inspection (e.g. focused inspection in lieu of a full inspection), and/or to reduce the inspection schedule to less than the baseline schedule. For instance, examples of focused inspection types for the Solid Waste programs are listed below:

- Waste screening at permitted facilities
- Groundwater monitoring at permitted landfills
- Methane emissions at permitted landfills
- Leachate management at permitted landfills

The option chosen is a function of many factors. In addition to the above, regions should carefully consider mitigating factors such as: the last full compliance inspection date; the condition of the facility; the size of the facility; facility appearance and maintenance; and regional inspection resources. Permittees participating in DEQ Environmental Excellence Program that have attained E3 or E4 status are eligible for reduced inspection frequency. E3 and E4 facilities are identified in CEDS. Inspectors familiar with the SWMFs should participate in identifying facilities with good operations, monitoring, and maintenance that are candidates for reduced/focused inspection activity.

As an example, the following could be used to identify a particular facility for a decreased inspection activity:

- Facility has an excellent compliance history based on the last three years of inspection reports (CH);
- Facility data indicates no GPS exceedances for groundwater (ES);
- Facility is a CDD landfill with a full updated permit (CH)

Based on the above, the facility was determined to qualify for as a lesser risk facility. Therefore, for the inspections that are reduced in scope (focused inspection) or are not done, the risk based factor evaluation for lower inspection frequency will be CH and ES.

Another advantage of the risk based protocol is that it provides DEQ an opportunity to focus multi-media inspection resources on specific areas of concern for the Agency, such as impaired watersheds. The risk based protocol can be used to determine if a permitted SWMF is contributing to the impairment. This will require that coordination take

place between different program areas and media to insure coverage of all permitted facilities in the watershed. For these types of added inspections, a brief narrative in the inspection schedules should be added describing the purpose of the watershed initiative. A year end report detailing the inspection findings may be necessary to evaluate findings and determine future activities and should be coordinated with other media programs, as necessary.

7. Applying the Risk Based Strategy

Under a normal solid waste compliance inspection frequency, DEQ inspects solid waste management facilities operating under permits and permit-by-rule status at the following minimum frequency:

- Active and inactive facilities inspected quarterly; and
- Closed facilities subject to Post-Closure Care inspected annually.

This normal inspection frequency is used to create a 'baseline' or 'neutral' inspection schedule. The Risk Based Protocols, described in the Section 6, are then applied to this baseline schedule to determine at which facilities additional inspections are warranted or at which facilities less frequent or intense inspections are appropriate.

Scheduling Process Using the Risk Based Protocols:

1. Develop a schedule for solid waste compliance inspections on a federal fiscal year basis (October 1 through September 30th) conforming to the normal inspection frequencies as listed above in this section. This is your baseline schedule.

2. Apply the risk based protocols to the facilities on this baseline inspection schedule to determine which facility inspections are modified (added, postponed, focused) from the baseline inspection schedule to develop the risk based inspection schedule (see format example in Table 1 and embedded excel sheet below). Please note the maximum and minimum inspection frequencies noted in Section 8.

3. Regional Office Waste Program Managers shall send, in Excel format (see example), their Region's finalized Risk Based Inspection Schedule to OSW's Solid Waste Compliance Coordinator by October 15th of each year. During the course of the compliance year, please report any changes to the inspection schedule to the Solid Waste Compliance Coordinator as they occur along with the reason for the change.

Region	Permit No.	Facility Name	Unit Type	Status	Baseline Inspection Annual Number	Number of Inspections Added or Reduced per RB	Number of Annual Inspections w/RB	RB Factors Applied (indicate if doing focused inspections)
XXRO	SWP001	County ABC Landfill	Sanitary Landfill [SW]	Active	4	1	5	CH, AES
XXRO	NA	GES AutoSalvage	Stormwater General Permit	Active	0	1	1	MM
XXRO	PBR111	Solid Waste TS	Transfer Station [SW]	Active	4	-2	2	CH
XXRO	PBR116	Waste Rus Material Recovery	Materials Recovery Facility [SW]	Active	4	-2	2	CH
XXRO	PBR219	Boo Yard Waste Composting Facility	Yard Waste Composting Facility [SW]	Active	4	-3	1	CH, ES

Table 1

RB Inspection Schedule Example.xls

4. In order to document a reduced frequency of inspection, use **Attachment A** to provide recorded documentation of the decision to reduce any inspection frequency at a facility. Place this completed form in the facility's inspection/compliance file. Please note this documentation is an essential part of the risk based inspection strategy and provides an easy to follow paper trail for anyone reviewing the file.

8. Inspection Frequency

As noted previously, the baseline inspection frequency is determined by the operational status of the permit or permit-by-rule SWMF. If a SWMF is deemed to be a lower risk based on evaluation of the risk based factors and, therefore, would qualify for a reduced inspection frequency, the minimum inspection frequency for these lower risk SWMFs during the compliance year shall be:

- Lower risk full permit SWMFs conduct at least biannual inspections with a minimum of one full regular compliance inspection and one focused inspection (for a minimum of two inspections);
- Lower risk permit-by-rule SWMFs conduct at least one full regular compliance inspection during the compliance year;
- Lower risk closed landfills under post-closure care conduct at least one full regular compliance inspection biennially; and
- Lower risk barge receiving facilities conduct at least quarterly inspections, a maximum of two of which may be focused inspections during the compliance year (for a minimum of four inspections).

For all other facilities that would not qualify for decreased or focused inspections, the minimum inspection frequency shall be the applicable baseline inspection schedule.

For any facility which is deemed to be a higher risk based upon the evaluation of the risk factors, additional inspections beyond the baseline frequency may be necessary. The maximum number of additional inspections during the compliance year for these higher risk SWMFs shall be (note, these are in addition to the baseline schedule):

- Higher risk full permit SWMFs conduct no more than two full or focused additional inspections during the compliance year (for a maximum of six inspections);
- Higher risk permit-by-rule SWMFs conduct no more than two full or focused inspections during the compliance year (for a maximum of six inspections);
- Higher risk closed landfills under post-closure care conduct no more than one additional full or focused inspection during the compliance year (for a maximum of two inspections); and
- Higher risk barge receiving facilities conduct no more than an additional two full or focused inspections during the compliance year (for a maximum of six inspections).

9. Resources and Reporting

As always, if assistance is needed with implementation or clarification of the risk based strategy, please contact OSW. Additionally, please note that CEDS will be utilized to pull quarterly and annual inspection summaries for distribution within the agency regarding the solid waste compliance program.

Attachment A

Department of Environmental Quality

Documentation of Baseline Inspection Intensity/Frequency Reduction

Regional Office:_____ Waste Program Manager Initials & Date:_____

Facility Name:_____

Solid Waste Permit Type: □ Full SW Permit □ Permit by Rule

Solid Waste Permit Number:_____

Facility Type:

□ Sanitary Landfill
□ CDD Landfill
□ Industrial Landfill
□ SW Compost Facility
□ Transfer Station
□ Material Recovery
□ Incinerator
□ Waste to Energy Plant
□ Impoundment/Lagoon
□ Waste Pile
□ VegWaste Mgnt Facility
□ VegWaste Cmpst Facility
□ Reg. Medical Waste Unit
□ Other:_____

Federal Fiscal Year:_____

Date of last *FULL REGULAR COMPLIANCE* Inspection:_____

Date of last Inspection:_____

Reason for Change (check all that apply):

□ Compliance History **CH**
□ Environmental Excellence **EE**
□ Environmental Sensitivity **ES**
□ Multi-media **MM**
□ Agency Exposure/Sectors **AES**

Justification (provide short synopsis of why specific factor(s) checked above was/were chosen):

Proposed Actions:

□ Focused Inspection in lieu of Regular Compliance Inspection
Number of Fulls reduced to Focused:_____

□ Reduced # of Inspections from the Baseline Inspection Frequency
Number of Inspections removed:_____

Other Comments:

HAZARDOUS WASTE
RISK BASED STRATEGY

Virginia Department of Environmental Quality
RCRA Subtitle C Hazardous Waste Compliance Program
Risk-Based Inspection Strategy

I. Introduction

As part of our federal grant mandated RCRA Subtitle C inspections, the Virginia hazardous waste compliance program has been using an innovative combination of risk-based/sector-initiative/compliance-assistance approach to compliance inspections since FY2001. Some restrictions under federal statute have limited this approach based on facility type. Other areas, initially experimental demonstrations but having shown significant success and acceptance not only in identifying compliance issues but enhancing compliance awareness, have been expanded with EPA's concurrence.

Relation of these program areas and approaches to the generalized discussion of risk factors that could be applied to compliance program inspection strategies to leverage limited resources to accomplish environmental protection goals is indicated in the discussion areas as below:
Environmental Enhancement Program Participation **(EE),** Compliance History and Facility Type **(CH),** Environmental Sensitivity **(ES),** Multi-media Applicability **(MM**), and Agency Exposure/Sectors **(AES)**. Refer to Section III below for further details related to the risk criteria and metrics.

In Virginia we have 41 permitted facilities and approximately 250 large quantity generators. During the last 10 years, we have found that their incidence of *significant violations* (i.e., potentially harmful to human health or the environment vs. paper violations) has decreased, due largely to the fact that, as mandated by the program, we have inspected these facilities routinely for over 20 years.

II. Inspection Scheduling

Federal law sets statutory requirements for state authorized RCRA Subtitle C programs to conduct annual inspections of operating federal, state or local government treatment, storage or disposal (TSDs) facilities. (40 U.S.C. § 6927 (c)-(d)). Privately owned TSDs must be inspected every other year. (40 U.S.C. § 6927 (e) (1)). **(CH) (AES)**

Due to federal statute and EPA concurrence, inspections at these facilities are non-negotiable for state authorized programs. Therefore, we must continue to perform these inspections as required by statute and our federal grant or face significant risk to agency program authorization, including public exposure risk if the agency fails to meet these obligations. **(AES)**

However, in discussions with EPA, we have reached tacit agreement that the scope of inspections at these facilities is not necessarily fixed. We have proposed program adjustment for certain types of these facilities so that we may conduct "focused compliance inspections", which are recognized under the program and so designated in the RCRAInfo tracking and reporting system. These adjusted inspection elements are to be based on on-site management and compliance performance prioritizations. Facilities eligible for this approach will be identified by acceptance and participation in either Virginia E4 or National Performance Track recognition programs. Default "focused compliance inspections" at subject facilities would be based on areas of highest risk, generally waste storage/on-site management practices for captive TSDFs, and waste acceptance/operational records processes for facilities receiving waste from off-site. Other inspection areas may and should be added, as appropriate, based on previous inspection history, complaints or incidents, other program/media related information, or Environmental Management System (EMS) changes or shortcomings. We may also consider some forms of self audits as an additional component for reduced inspections at these facilities. **(EE) (CH) (MM)**

The hazardous waste compliance program will also continue to inspect Significant Non-Compliers each year pursuant to EPA and state enforcement policy documents (ref: EPA Enforcement Response Policy 2003 and DEQ's Enforcement Manual). EPA's Office of the Inspector General conducted an evaluation of DEQ's ERP96 performance in 1997. Based on results of that audit and DEQ's response, failure to adhere to this policy would pose significant program authorization and agency public perception risks. Facilities would revert to normal inspection selection practices once determined to no longer be a "SNC" and having met any enforcement/compliance schedule obligations (as confirmed by inspection). **(CH) (AES)**

Other facility inspection categories are set pursuant to annual grant commitment goals, EPA or state determined initiatives, and EPA's "National Program Manager's Guidance". In these areas, the hazardous waste inspection program has had some latitude to set risk-based, sector and innovative compliance assistance inspection strategies since initiating these program concepts in FY2001.

We are required by grant to inspect a certain percentage of Large Quantity Generator facilities annually, and all LQGs at least within every 5 years. LQG inspections are a required program element; failure to meet program commitments in this EPA tracked category is an agency program risk. Virginia's total universe of LQGs is approximately 250; it varies somewhat from year to year. To meet the "every 5 years" goal requires approximately 50 LQG inspections per year. There are opportunities for risk-based approaches to LQG inspections by prioritizing them based on federal or state initiative sectors. However, we would not want to subject facilities to more frequent inspections than required under program goals if they were part of a previous year's sector, nor do we want to shortfall program requirements. Our risk based LQG approach also prioritizes LQG inspections for facilities where we have received citizen complaints or EPA referrals, or other program information or documentation that indicates potential problems. LQGs who are VEEP E4 or NPT facilities are generally considered "low risk" and may have their inspection frequency extended by one year following recommendations by EPA OECA. They may also benefit from several reduced compliance requirements as noted in the regulations and Virginia's adoption of the corresponding federal regulations. Facilities that loose VEEP E4 or NPT status would revert to normal risk category. For extenuating circumstances or losing E4/NPT status "for cause" (e.g. SNC issues) they would be considered "high risk" facilities. **(CH) (MM) (AES)**

Concurrent with decrease in significant violations among TSDFs, Virginia has found increases in significant violations among Small Generators (100-1000 kg/mo generators) and episodic LQGs, including significant non-compliance (SNC) and unpermitted TSDF violations. Our time to commit to these generators is limited by mandatory inspection categories and other grant performance targets.

To further enable our efforts in identifying potential significant problems and higher-risk Small Generator facilities (the current universe is approximately 4400 facilities), we proposed to EPA a reduction of mandatory annual/biennial inspections at TSDs and once per 5 years inspection at LQGs to include only those facilities identified by the state or federal program as higher risk. This approach is was not successful for TSDFs, due to statutory requirements with respect to inspection frequency, as noted above. However, we have expanded efforts in Small Generator categories based on state or federal sectors and risk-based approaches. Our experience has demonstrated that these facilities are more likely to have significant human health and environmental risk from non-compliance due to limited resources and oversight, and are more likely to avoid detection due the overwhelming number of facilities in the category. We believe that this results in enhanced identification of potential problem facilities, including new or never inspected facilities, aid in identifying new risk categories, and provide greater oversight of facilities avoiding detection as a result of limited and misallocated resources. Risk based sectors are chosen based on industry type, multi-media issues, regulation changes applicable to certain industrial sectors, field observations, emerging issues, specific hazardous constituent focus (e.g., mercury reduction), or geographical sectors (e.g., Chesapeake bay area or population sensitivity issues). Past and current sectors have included airports (fuel disposal),

hospitals (pharmaceutical waste), marinas, vehicle maintenance, colleges/universities, metal platers, furniture manufacture, lead abatement, and numerous others as both state initiative and federal sectors. **(ES) (MM) (AES)**

We have also included an innovative approach for Compliance Assistance inspections coupled with waste minimization/ pollution prevention strategies for lowest risk category facilities. The concept paper for the initial effort is on DEQNet (http://deqnet/docs/waste/Hazardous_Waste_Compliance/HW_Assistance_Papers/compliance_assistance.doc). This concept has been embraced by EPA and expanded since initiated in the waste program in 2001. It has also been presented at the RCRA National Meeting in Washington, DC in 2002. **(AES) (EE)**

Attachment A shall be used to document the decision to postpone an inspection at a facility. The documentation describing the rationale for postponing or reducing the scope of the inspection shall be developed and placed in the facility compliance/inspection file. Documentation is an essential part of the risk based inspection strategy. The documentation provides an easy to follow paper trail for anyone reviewing the file.

III. Risk Approach for Environmental Compliance Programs

The risk factors are divided into two categories; a primary category for those factors that are facility specific and a secondary category which are programmatic or Agency specific factors. For instance, a facility with an excellent compliance history may be deemed suitable for a reduced inspection frequency; however, the facility is of a type/class or at a location for which the Agency has an initiative in place for further evaluation. Therefore, due to the secondary factor, a reduced inspection schedule may not be suitable. The primary risk based factors are:

Environmental Enhancement Program Participation **(EE)** - Facilities that have achieved E3 or E4 status are eligible for reduced frequency or focused inspections. Other facilities participating in DEQ VEEP program or EPA performance track may also be candidates for reduced inspection frequency or focused inspections.

Compliance History and Facility Type **(CH) -** The compliance history is the major consideration for risk based inspection scheduling. This factor in consideration with facility type should be used to determine whether fewer or more focused inspections are necessary at a facility with a good compliance history or whether increased inspections are necessary for facilities with on-going issues. Compliance history shall be considered with type of unit(s) at a facility to ensure the value added for conducting the inspection is equivalent to the resources expended. For "minor" storage or treatment units (such as on-site (captive) storage or treatment units) with good compliance histories lesser inspection frequency based on less risk posed may be appropriate.

Environmental Sensitivity **(ES)** - If the facility is located in areas of particular environmental or public health concern, increased inspection frequency may be necessary.

Multi-media Applicability **(MM) –** Evaluate risk based plans to include potential multi-media opportunities ranging from single inspectors covering simple multiple program areas to a team approach for larger more complex facilities. For instance, a permitted landfill may be a potential impact to an impaired watershed in which case a surface water issue may need to be brought to a water compliance inspector's attention. Other options would include hazardous waste compliance inspectors attending an inspection with inspectors from another media to a smaller or minor type facility (cross-training), or going to a larger facility with multi-media programs as part of an inspection team.

Secondary risk based factors may or may not be applicable depending on Agency plans and goals. These factors should be evaluated when proposing the risk based inspection plan/schedule. The secondary risk based factors are:

Agency Exposure/Sectors **(AES) –** Evaluate agency obligations relative to legislative mandates and sector initiatives (i.e., identification of particular groups or categories) relative to risk. If we lack the resources to complete everything then what we do not accomplish should be based on an evaluation of risk to the agency. These risks may include consideration of concerns by staff or public regarding a particular facility, or identification of particular sectors for any number of considerations including any newly regulated/permitted facilities, particular pollutant concerns, minimal agency resources applied historically, etc.

Specific metrics for the above categories are provided below for regional office use. These metrics can help identify which facilities may require more or less compliance attention. However, the best measure for that determination is the compliance history and inspector's knowledge of the facility.

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
Environmental Enhancement Program (VEEP)				
	EE Participation	EE Ranking	E3 or E4	NA
Compliance History and Facility Type				
	Inspection Related Compliance	Inspection Reports	Satisfactory reports; Good operations and maintenance (i.e., Less than 2 deficiency or warning letters within last two years; No NOVs within last 3 years.)	Unresponsive or chronic non-compliance. Never been inspected.
	Monitoring Data	Data	Below permit limits	Alleged violations of regulatory or permit limits; Deficiencies in data QA/QC
	Unit Type		On-site (captive) storage or treatment units	Incinerators, BIFs and land based units
Environmental Sensitivity				
	Surrounding Land Use	Public Use - residential,	Public water supply; non-	Drinking water wells in proximity;

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
		recreational; Ecological Sensitive Areas; Potable Water Supply	residential surrounding area	residents, parks, daycares, hospitals, etc. in proximity; endangered species located nearby
	Proximity to environmentally sensitive areas	Proximity to impaired water body		Discharges to impaired water body
		Non-attainment and attainment maintenance areas		Located within these areas
	Air Source Classification	Type	Minors and Synthetic Minors	Majors and Synthetic Minor 80% Sources
	Environmental Justice			Facility within or adjacent to EJ areas
	Population	Population Density	Rural areas	Urban areas
Agency Exposure/Sectors				
	Community Concerns	Complaints	No complaints or only minor or unfounded complaints received	Multiple substantiated complaints from different sources regarding facility.
	Funding Sources	Mandated priorities	Non-EPA or State mandated priority	EPA or State mandated priority

Regions have two options for high performing facilities; to either perform a lower intensity inspection (e.g. focused inspection in lieu of a full inspection), and/or to reduce the inspection schedule to less than the neutral schedule. The option chosen is a function of many factors. In addition to the above, regions should carefully consider mitigating factors such as: the last inspection date; the condition of the facility; the size of the facility; facility appearance and maintenance; and regional inspection resources. Facilities participating in DEQ Environmental Excellence Program that have attained E3 or E4 status are eligible for reduced inspection frequency. E3 and E4 facilities are identified in CEDS and are also listed at http://www.deq.virginia.gov/veep/members.html. Inspectors familiar with the facilities should participate in identifying facilities with good operations, monitoring, and maintenance that are candidates for reduced/focused inspection activity.

As an example, the following could be used to identify a particular facility for a decreased inspection activity:

- Facility has an excellent compliance history based on the last three years of inspection reports (CH);
- Facility is not located in an environmentally sensitive area (ES);
- Facility is an on-site container storage facility (CH)

Based on the above, the facility was determined to qualify for as a lesser risk facility. Therefore, for the inspections that are reduced in scope (focused inspection) or are not done, the risk based factor evaluation for lower inspection frequency will be CH and ES.

Another advantage of the risk based protocol is that it provides DEQ an opportunity to focus multi-media inspection resources on specific areas of concern for the Agency, such as impaired watersheds. The risk based protocol can be used to determine if a facility managing hazardous waste is contributing to the impairment. This will require that coordination take place between different program areas and media to insure coverage of all permitted facilities in the watershed. For these types of added inspections, a brief narrative in the inspection schedules should be added describing the purpose of the watershed initiative. A year end report detailing the inspection findings may be necessary to evaluate findings and determine future activities and should be coordinated with other media programs, as necessary.

Inspection Frequency

As noted previously, the neutral inspection frequency is determined by the program requirements. If a facility is deemed to be a lower risk based on evaluation of the risk based factors it would qualify for a reduced inspection frequency or a "focused compliance inspection". For all other facilities that would not qualify for decreased or focused inspections, the minimum inspection frequency shall be the neutral inspection schedule. Conversely, if a facility is deemed to be a higher risk based upon the evaluation of the risk factors, additional inspections beyond the neutral frequency may be necessary.

Regional Office Waste Program Managers shall send, in Excel format, their Region's finalized Risk Based Inspection Schedule Plan to the Central Office Hazardous Waste Compliance Coordinator by August 15th of each year, based on a federal fiscal year compliance year (October 1st until September 30th). At a minimum, the submitted schedule should contain: region, EPA identification number, facility name, grant category, the risk based criteria applied to warrant additional inspection scrutiny or lesser inspection scrutiny and provide information on whether the facility inspection was added or whether the inspection frequency was reduced/focused using the risk based strategy (see format imbedded below or Attachment B below for an example). During the course of the compliance year, any changes to the inspection schedule need to be reported to the Hazardous Waste Compliance Coordinator as they occur along with the reason for the change.

RB Inspection Schedule Example.xls

Attachment A

Department of Environmental Quality

Documentation of 'FFY Scheduled' Inspection Reduction

Facility Name: _____
EPA ID Number: _

Grant Category :	□	Federal TSD	□	State TSD
	□	Private TSD	□	LDF
	□	Generator	□	SGQ
	□	Priority Area	□	Other (indicate) ___

Date of proposed change: _
Date of last 'Full' Inspection (CEI): _
Date of last Inspection: _

Compliance Manager Name & Date: _
Regional Office: _____

Reason for Change (check all that apply):

- □ Environmental Enhancement Program Participant
- □ Compliance History/Facility Type
- □ Environmental Sensitivity
- □ Agency Exposure/Sectors

Proposed Actions:

- □ Focused Compliance Inspection (FCI)
- □ Compliance Evaluation Inspection (CEI)
- □ Postponed Inspection

Other Comments:

cc: HW Compliance Coordinator
Facility File

Attachment B

Risk Based Inspection Summary for FY20XX

Region	EPA ID#	Facility Name	Grant Category	Unit Type (TSDs only)	Status	Baseline Inspection Frequency	Add or Reduce Inspections	Type of Inspection	RB Factors Basis
XXRO	VA00XXXXXXXX	US Army Fort	Fed TSD	container storage	Operating	1/yr	Reduce	FCI	CH, EE
XXRO	VADXXXXXXXXX	Burn It Up, Inc.	Private TSD	incinerator	Operating	1/yr	Add	CEI & FCI	CH, MM, ES
XXRO	VADXXXXXXXXX	Shiny Parts Solvent Recycler	Private TSD	tanks & containers	Operating	1/2yrs	Reduce	FCI	CH
XXRO	VARXXXXXXXXX	Acme Inc.	Land based facility	landfill	PCC	1/3 yrs	Reduce	FCI	CH, EE
XXRO	VADXXXXXXXXX	ABC Manufacturing Co.	LQG	NA	Active	1/5yrs	Add	CEI	ES, AES, MM
XXRO	VARXXXXXXXXX	Mr. Metal Electroplating	SQG	NA	Active	NA	Add	CEI	ES, AES
XXRO	VADXXXXXXXXX	Bill's Better Body Shop	Priority	NA	Active	NA	Add	CAV & CEI	CH, AES
XXRO	VADXXXXXXXXX	A County High School	SQG	NA	Active	NA	Add	CEI	AES
XXRO	VARXXXXXXXXX	Getubetter Hospital	Priority	NA	Active	NA	Add	CAV & CEI	ES, AES

WATER COMPLIANCE
RISK BASED STRATEGY

DEPARTMENT OF ENVIRONMENTAL QUALITY
VPDES – VPA
INSPECTION STRATEGY
October 2007

I. Introduction

The Department of Environmental Quality (DEQ) Virginia Pollutant Discharge Elimination System (VPDES) Permit program, the Pretreatment program, the Virginia Pollution Abatement (VPA) Permit program, and the VPDES and VPA general permit program all rely primarily on the concept of permittee self-monitoring and reporting for compliance determinations. To insure that facilities are operated and maintained properly, and that self-monitoring information is representative and accurate, the DEQ conducts facility inspections as the principal form of regulatory surveillance. The DEQ utilizes a risk based protocol to identify facilities in need of increased or decreased inspection frequency and to use staff resources most effectively in order to accomplish the goals of the Inspection Strategy.

The purpose of this document is to set forth the VPDES - VPA inspection strategy for the DEQ. This strategy identifies inspection objectives, types, frequencies, scheduling, and reporting.

II. Strategy Goals

The major goals of this strategy are:

- to provide a framework for compliance and to assure optimum coverage and thoroughness during inspection activities of the regulated community;
- to assure that obligations under the State Water Control Law and federal grant agreements are met;
- to provide guidance and assistance for operating plan commitments, budgeting, and resource requirements;
- to ensure inspections are conducted in a consistent manner.

III. Inspection Program Objectives

The objectives of the inspection program are:

- to assure that facilities are in compliance with statutes, regulations, and requirements, thereby protecting the quality of state waters
- to improve facility performance by providing technical assistance,
- to support permit development,
- to maintain a regulatory presence,
- to support administrative, civil, and criminal enforcement actions,
- to support development and implementation of the pretreatment program.

Each inspection of a wastewater treatment facility may not accomplish every objective, but most inspections are useful in accomplishing several rather than only one of the above objectives. Therefore, schedule and implement inspection activities to provide maximum coverage of facilities within available DEQ resources. Initiate inspections as a scheduled or unscheduled activity or in response to complaints or requests from outside DEQ.

IV. Inspection Reporting

Send one copy of all inspection reports for permitted facilities to the Inspections Coordinator in the Office of Water Compliance (OWC) within 30 calendar days of the inspection date. Batch reports from each Regional Office to the Inspections Coordinator once or twice per month. Send 'EPA Copy' of reports (all VPDES majors and federal facilities) in a separate identified interoffice mailing. Submit VPA AFO inspection reports to the AFO Program Coordinator on the same schedule. Send batched electronic reports each month via email to the AFO Program Coordinator, or post via a common network drive. Retain originals of the inspection report in the regional office, and send a copy to the facility. The Inspections Coordinator will forward a copy of major VPDES and federal facility inspection reports to EPA. The Inspections Coordinator will also prepare quarterly and annual inspection summaries for distribution within the agency and to EPA.

V. Inspection Frequency

Inspections frequencies are established by State and federal law, as well as agreements with EPA and agency priorities. The minimum frequency goals for the DEQ to perform VPDES permit inspections (technical and laboratory), VPA inspections, and commercial laboratory inspections are presented in the Inspection Frequency Table at the end of this document. Conduct other inspections discussed in this strategy on an as needed basis.

VI. Risk Based Protocol

DEQ's risk based protocol attempts to direct limited staff resources away from well operated facilities with good compliance histories to facilities with poor performance records or 'high risk facilities'. Resources to conduct high risk inspections are made available by conducting focused and less complex inspections at facilities that historically have had excellent compliance or by simply postponing inspections. Divide risk factors into two categories; a primary category for those factors that are facility specific and a secondary category that are programmatic or Agency specific factors. For instance, a facility with an excellent compliance history may be suitable for a reduced inspection frequency; however, if the facility is of a type/class or at a location for which the Agency has an initiative in place for further evaluation, a reduced inspection schedule may not be suitable.

The primary risk based factors are:

Environmental Enhancement Program Participation **(EE) –** Facilities that have achieved E3 or E4 status are eligible for reduced frequency or focused inspections. Other facilities participating in DEQ VEEP program or EPA performance track may also be candidates for reduced inspection frequency or focused inspections.

Compliance History and Facility Type **(CH) –** The compliance history is the major consideration for risk based inspection scheduling. Use this factor in consideration with facility type to determine whether fewer or more focused inspections are necessary at a facility with a good compliance history or whether increased inspections are necessary for facilities with on-going issues. Consider compliance history with facility size and complexity of treatment at a facility to ensure the value added for conducting the inspection is equivalent to the resources expended.

Environmental Sensitivity **(ES) –** Increased inspection frequency may be necessary for facilities located in areas of particular environmental or public health concern.

Multi-media Applicability **(MM) –** Evaluate risk based plans to include potential multi-media opportunities ranging from single inspectors covering simple multiple program areas to a team approach for larger more complex facilities. For instance, a permitted landfill may be a potential impact to an impaired watershed in which case a surface water issue may need to be brought to a water compliance inspector's attention. Other options would include solid waste

compliance inspectors attending an inspection with inspectors from another media to a smaller or minor type facility (cross-training), or going to a larger facility with multi-media programs as part of an inspection team.

Secondary risk based factors may or may not be applicable depending on Agency plans and goals. Evaluate these factors when proposing the risk based inspection plan/schedule. The secondary risk based factors are:

Agency Exposure/Sectors **(AES) –** Evaluate agency obligations relative to legislative mandates and sector initiatives (i.e., identification of particular groups or categories) relative to risk. If there is a lack of resources to complete a region's scheduled inspections then base what cannot be accomplished on an evaluation of risk to the agency. These risks may include consideration of concerns by staff or public regarding a particular facility, or identification of particular sectors for any number of considerations including any newly regulated/permitted facilities, particular pollutant concerns, minimal agency resources applied historically, etc.

Specific metrics for the above categories are provided below for regional office use. These metrics can help identify which facilities may require more or less compliance attention. However, the best measure for that determination is the compliance history and inspector's knowledge of the facility.

Risk Factor	Criteria	Metric	Lesser Risk: Reduced or focused inspections?	Elevated Risk: Increased inspections?
Environmental Enhancement Participant				
	EE Participation	EE Ranking	E3 or E4	NA
Compliance History and Facility Type				
	Inspection related Compliance	Inspection Reports	Satisfactory reports; Good operations and maintenance (i.e., Less than 2 deficiency or warning letters within last two years; No NOVs within last 3 years)	Unresponsive or chronic non-compliance or O&M issues
	Monitoring Data	Data	Below permit limits	Alleged violations of regulatory or permit limits; Deficiencies in data QA/QC; unusual data patterns
	Treatment Type	Treatment technology and reliability	Stabilization ponds	Advanced waste treatment, nutrient removal, older or aging plants

Environmental Sensitivity				
	Surrounding Land Use	Public Use - residential, recreational; Ecological Sensitive Areas; Potable Water Supply	Discharge highly diluted by receiving waters	Discharge to public water supply, trout stream, or shellfish area; proximity of endangered species
	Proximity to environmentally sensitive areas	Proximity to impaired water body		Discharges to impaired water body
		Non-attainment and attainment maintenance areas		Located within these areas
	Source Classification	Type (size)	Well operated Minors and Small	Majors and Minor
	Environmental Justice			Facility within or adjacent to EJ areas
	Population	Population Density	Rural areas	Urban areas
Agency Exposure/Sectors				
	Community Concerns	Complaints	No complaints or only minor or unfounded complaints received	Multiple substantiated complaints regarding facility
	Funding Sources	Mandated priorities	Non-EPA or State mandated priority	EPA or State mandated priority

VII. Inspection Scheduling

Schedule VPDES and VPA permit inspections on a federal fiscal year basis (October through September) conforming to the minimum goals set forth in the Inspection Frequency Table (see **Table 1**) and the risk based protocol. Use the Inspection Frequency Table to develop a 'neutral' inspection schedule. A neutral inspection schedule is an inspection schedule that is based solely on the Inspection Frequency Table. Apply the risk based protocol to the neutral inspection schedule to determine which facilities are added or deleted from the neutral inspection schedule to develop the final risk based inspection schedule. Use **Attachment A** to document the decision to postpone or add an inspection at a facility. Place documentation in the facility inspection/compliance file describing the rationale for postponing the inspection. Documentation is an essential part of the risk based inspection strategy. The documentation provides an easy to follow paper trail for anyone reviewing the file.

- Conduct a minimum of one full technical and laboratory and one reduced intensity inspection (e.g., sampling and/or reconnaissance) at major facilities during the permit cycle, regardless of their risk based status. Conduct at least one technical, laboratory and sampling inspection in a permit cycle at minor and small facilities. Give facilities registered under a general permit the same consideration for scheduling and inspection as facilities covered by an individual permit. VPA facilities will be inspected at least once every five fiscal years (i.e., twice during the permit cycle).

- Conduct laboratory inspections at the same frequency as technical inspections. Laboratory inspections are frequently performed on the same day as the technical inspections. Large laboratories may require multi-day inspections. Regions can use teams of inspectors to conduct laboratory inspections in order to complete the onsite portion of the inspection more efficiently. For facilities that meet the 'decreased' Risk Based Inspection protocol a combination sampling and reconnaissance inspection may be performed in lieu of a laboratory inspection, however a full lab inspection must be conducted at least once during the permit cycle (i.e., must use the DEQ Laboratory Inspection forms and sample for permitted parameters).

- Inspection frequency for commercial laboratories is listed in the attached table. Inspection of out of state laboratories is at the discretion of the region. Assistance evaluating metals and organics analysis is available from the Office of Water Compliance. Check sheets for organics and metals analysis are contained in http://www.deq.virginia.gov/forms/checklist.html. Inspectors familiar with metals and or organics analyses are encouraged to use the check sheets to evaluate laboratory procedures.

- Conduct sampling inspections at least once every five years for VPDES facilities.

Send the inspection schedule (in Excel format) for each region to the Central Office Inspections Coordinator by August 15th each year. Submit a schedule that contains: permit number, facility name, facility type and classification (e.g. municipal major, industrial minor, etc.), proposed inspection month and year, whether the facility was added to the FFY Inspection Schedule using the risk based protocol, the risk based factor(s), and Regional Office (see format example below). Also, indicate any inspection postponed or reduced because of the risk based protocol. Sort the inspection schedule by proposed month of inspection so that the schedule reads from October through September of the fiscal year. Rotate inspection timing to occur at a different time of the year than previous inspections at the site. Rotate inspection dates to observe facilities under various operating conditions and at different times of the year. Defer inspection of single family homes covered by a general permit to the Local Health Department. DEQ staff inspects multiple home and non-residential domestic wastewater facilities covered by a general permit. Report changes to the inspection schedule to the Inspections Coordinator as the changes occur.

FFY Inspection Schedule (format example)

Permit No.	Facility Name	Ind. or Mun.	Class	Inspection Type	Inspection Mon.-Year	Added Postponed Reduced	Risk Based Factor(s)	Region
VA0012345	Big Town WWTP	Mun	Major	Tech/Lab		Postponed	CH	XXRO
VA0054321	Medium Town WWTP	Mun	Minor	Recon & Sampling	Nov-2006	Added	CH, ES	XXRO
VA0011111	Medium Town WTP	Ind	Small	Recon & Sampling	Nov-2006	Added	AES	XXRO
VA0034567	Small Town WWTP	Mun	Small	Recon & Sampling	Dec-2006	Added	ES	XXRO
VA0000111	Big Acme Industries	Ind	Major	Recon & Sampling	Jan-2007	Reduced	EE	XXRO
VA0001111	Widgit Industries	Ind	Minor	Tech/Lab		Postponed	CH	XXRO
VAG110999	Concrete Ideas, Inc.	Ind	Small	Recon & Sampling		Postponed		XXRO
VPA01234	Joe's Log Yard	Ind	LP	Tech/Lab	Apr-2007	Added	ES	XXRO
VPA04321	Any Town Land Application	Mun	HP	Tech/Lab	May-2007			XXRO
VPG249999	Paltry's Poultry	AFO	AFO	CommLab	Jun-2007			
VA12345	Analyses R Us	CommLab	CommLab – Major	CommLab	Jul-2007			

Table 1

INSPECTION FREQUENCY TABLE			
Inspection Type	**Annually**	**Biennially**	**5 Years**
VPDES Municipal Major (≥1.0 MGD)		X	
VPDES Municipal Minor (≥0.04 & ≤1.0 MGD)		X	
VPDES Municipal Small (≥0.001 & ≤0.04 MGD) [1]			X
VPDES Industrial Major (DEQ/EPA Majors list)		X	
VPDES Industrial Minor (not a Major or Small)		X	
VPDES Industrial Small [2]			X
VPDES General			X
VPDES Sampling [3]			X
VPG (AFO)	X		
VPA (High Priority) [4]	X		
VPA (Low Priority) [5]			X
Commercial Laboratory (Major) [6]	X		
Commercial Laboratory (Minor) [7]		X	

1 Includes multiple home and non-residential domestic wastewater facilities covered by General Permit.

2 Small is an industrial facility with low environmental impact potential such as discharges of non-contact cooling water, sand and gravel operations, car washes, etc.

3 Sampling inspections are conducted subject to the availability of effluent.

4 High priority is assigned to facilities with high environmental impact potential or high public concern and includes animal feeding operations, wood preserving operations, sludge disposal activities, and other facilities so classified by the Regional Offices. An inspection of sludge disposal permitted facilities includes, as a minimum, an inspection of the storage facilities and at least one land application site per permitted facility per year.

5 Low Priority is a VPA facility with low environmental impact potential.

6 Major Commercial Laboratories are those who serve ten or more minor VPDES/VPA permittees and/or 1 major facility.

7 Minor Commercial Laboratory designation is assigned to all other facilities not considered as high priority.

Attachment A

Department of Environmental Quality
VPDES/VPA Inspection

Documentation of 'FFY Scheduled' Inspection Change

Facility Name: _____
Permit Number: _____
Facility Classification: □ Major □ Minor □ Small

Date of proposed change: _____
Date of last 'Full' Inspection: _____
Date of last Inspection: _____

Water Compliance Manager Name & Date: _____
Regional Office: _____

Reason for Change (check all that apply):

- □ Compliance History **CH**
- □ Environmental Excellence **EE**
- □ Environmental Sensitivity **ES**
- □ Multi-media **MM**
- □ Agency Exposure/Sectors **AES**

Provide specific details for above checked items: _____

Proposed Actions:

- □ Reconnaissance and/or Sampling Inspection (Added)
- □ Reconnaissance and/or Sampling Inspection (Reduced)
- □ Postponed Inspection
- □ Added Tech or Lab inspection to schedule

Other Comments: